Goldstripe Darter

Etheostoma parvipinne

Guidelines for Landowners Using Conservation Practices

Missouri Department of Conservation

Common name ▪ Goldstripe Darter
Scientific name ▪ *Etheostoma parvipinne*
State status ▪ Endangered
Federal status ▪ None

Ecology

In Missouri, the goldstripe darter is found only in the southeastern part of the state, occupying springs and small, shallow spring-fed streams with closed canopies. This closed-canopy cover is important in helping to maintain cooler water temperatures and restrict algal growth. The goldstripe darter prefers long, shallow pools with a sandy substrate and detrital depositions where it feeds on small aquatic invertebrates. This species ranges in length from 2.3 to 3.2 inches. Spawning occurs in March and April but may extend into May. Eggs are attached singly to in-channel woody material, aquatic plants and plant roots above the substrate.

Reasons for Decline

Although it is likely that goldstripe darters have always been rare in Missouri, habitat alteration through excessive siltation, restriction of channel flow, water impoundment and removal of riparian vegetation have contributed to the decline of this fish. Agriculture and urban development have greatly contributed to the lowering of the water table and increased the influx of non-point source pollution. Continued poor management practices left unchecked will eventually lead to the extirpation of this species from Missouri.

Recommendations

Goldstripe daters are very specific in their habitat requirements, which explain their limited range in Missouri. Because of this, alterations to existing habitat could eliminate this species from part of its natural, historical range. Efforts should be made to ensure our waterways are healthy through protection and/or restoration of habitat for this and other aquatic species.

Photo Credit: Missouri Department of Conservation

Avoid constructing stream crossings. If unavoidable, culverts and stream crossings should be constructed with the same bottom elevation as the existing streambed to avoid restricting stream flow and obstructing fish passage. A bridge would be more appropriate than placement of a culvert due to the potential of passage restrictions for this species. Dams should not be constructed in those streams where this species occurs.

Bank stabilization materials should consist only of rock, clean broken concrete or similar materials free of pollutants, silt and extraneous debris including exposed rebar. Erosion and sediment controls should be implemented, maintained and monitored for the duration of a project.

Follow proper sand and gravel removal procedures outlined in the Missouri Instream Sand and Gravel Removal Guidelines prepared by the Missouri Departments of Conservation and Natural Resources. Guidelines include the following: leave a minimum 20-foot buffer zone between the water line and the excavation area, do not mine within 20 feet of streamside vegetation, and do not alter stream channels. In addition, do not remove gravel during the goldstripe darter spawning season (March 1 to May 15).

Limit clearing of vegetation, including standing and downed timber, to that which is absolutely necessary for construction purposes. Re-establish and maintain forested riparian corridors at least 100-feet wide along streams and spring outflows used by goldstripe darters to reduce erosion and capture nutrient rich runoff.

Updated: September 9, 2008

Exclude livestock with fences to allow the area to naturally re-vegetate. Discourage cattle from using streams and spring outflows. Move watering areas into pastures and away from streams.

Refer to Management Recommendations for Construction Projects Affecting Missouri Streams and Rivers.

Consider the balance between adverse and beneficial practices when determining the overall effect of a conservation practice.

Beneficial Practices

- Limit livestock access to streams and spring outflows.
- Protection and restoration of riparian corridors along streams and spring outflows.
- Nutrient and pest management on adjacent agricultural fields that results in reduced opportunities for contamination of runoff.
- Practices that control erosion and prevent the delivery of sediment to the aquatic system will prove beneficial to this species.

Adverse Practices

- Sand and gravel removal beyond the excess material on adjacent unconsolidated bars.
- Project activities that occur below the high bank between March 1 and May 15, the spawning period of this fish.
- Constructing dams and other impoundment structures on streams that host the fish.
- Improper erosion and sediment control.
- Culverts, fords, and stream crossings that create a barrier to fish passage or restrict stream flow.
- Unnecessary vehicle and equipment stream crossing.
- Removing or degrading the riparian corridor near springs and along streams.
- Unmanaged application of pesticides, animal waste or fertilizers.

Information Contacts

Missouri Department of Conservation
Policy Coordination Section
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2901 W. Truman Blvd
Jefferson City, MO 65102-0180
Telephone: 573-751-4115
http://www.mdc.mo.gov/nathis/endangered/

Missouri Department of Natural Resources
Division of Environmental Quality
P.O. Box 176
Jefferson City, MO 65102-0176
Telephone: 800-361-4827 / 573-751-1300
http://www.dnr.mo.gov/env/index.html

U.S. Army Corps of Engineers
Regulatory Branch
700 Federal Building
601 E. 12th Street
Kansas City, MO 64106-2896
Telephone: 816-389-3990
http://www.nwk.usace.army.mil/

U.S. Environmental Protection Agency
Water, Wetlands, and Pesticides Division
901 North 5th Street
Kansas City, KS 66101
Telephone: 913-551-7003 / 800-223-0425
http://www.epa.gov/region7/

U.S. Fish and Wildlife Service
Ecological Services Field Office
101 Park DeVille Dr., Suite A
Columbia, MO 65203
Telephone: 573-234-2132
http://www.fws.gov/midwest/partners/missouri.html

Legal

The Missouri Department of Conservation prepared these guidelines for conservation practices with assistance from other state agencies, contractors, and others to provide guidance to those people who wish to voluntarily act to protect wildlife and habitat.

Compliance with these management guidelines is not required by the Missouri wildlife and forestry law or by any regulation of the Missouri Conservation Commission. Other federal, state or local laws may affect construction practices.

"State Endangered Status" is determined by the Missouri Conservation Commission under constitutional authority, and specific requirements for impacts to such species are expressed in the Missouri Wildlife Code, rule 3 CSR 10-4.111.